



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/703,031 | 10/31/2000 | Donald Dieter Frantz | 07508-027001 | 8889 |

7590

06/18/2002

Frank R. Occhiuti
Fish & Richardson PC
225 Franklin Street
Boston, MA 02110-2804

EXAMINER

SHAH, DEVAANG

ART UNIT

PAPER NUMBER

3737

DATE MAILED: 06/18/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/703,031

Applicant(s)

FRANTZ ET AL. *CM*

Examiner

Devaang Shah

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because they are informal and roughly sketched in pencil. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: on page 7, line 4, "comprised" should be changed to "compromised."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application

being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-7, and 13-28 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,318,025 to Dumoulin et al. Dumoulin et al. disclose a tracking system to monitor the position and orientation of a device such as a catheter by using magnetic resonance detection. As shown in figures 2a and 2b, the flexible device contains intermediate sensors (200b-200n) and a sensor proximate the distal tip (200a). The sensors are RF coils that detect MR signals that are generated in response to a controlled three-dimensional magnetic field generated by a set of magnetic field gradient coils. Signals detected by the sensors are transmitted to the system through conductors (columns 3-6). An alternate embodiment in which the RF coils perform a transmit function and the external coils perform a receive function is also disclosed (column 7, lines 8-15). Processing and calculating means provide the positions for all of the coils (200a-200n), and determine the orientation of the device from the calculated positions. The results are displayed as an image representing the device's position and orientation (column 6, lines 44-68; column 7, lines 1-2).

4. Claims 1, 8-12, 25, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,127,672 to Danisch. Danisch discloses a position, orientation, shape, and motion measuring tool. The tool is formed from a flexible substrate with fiber-optic bend and twist sensors disposed along its length. The bend sensors may be optical fiber loop sensors connected to a multi-fiber light source and

Art Unit: 3737

signal processing unit (columns 3-5). The locations of the distal tip and each sensor may be calculated in three dimensions (column 9, lines 29-38) using sensor data processing means (claim 1).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent No. 5,248,128 to Warren et al.

U.S. Patent No. 5,445,151 to Darrow et al.

U.S. Patent No. 5,447,156 to Dumoulin et al.

U.S. Patent No. 5,482,029 to Sekiguchi et al.

U.S. Patent No. 5,715,822 to Watkins et al.

U.S. Patent No. 5,991,479 to Kleinerman

U.S. Patent No. 6,323,459 B1 to Maynard

U.S. Patent No. 6,272,370 B1 to Gillies et al.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devaang Shah whose telephone number is 703-306-0333. The examiner can normally be reached on M-F, 9-5.

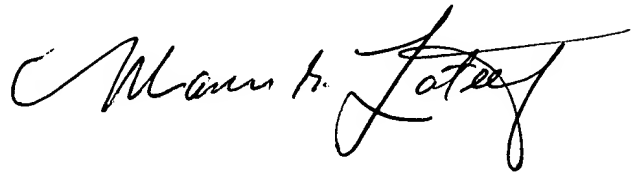
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on 703 308-3256. The fax phone numbers

Art Unit: 3737

for the organization where this application or proceeding is assigned are 703-305-3590 for regular communications and 703-308-0758 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

DS D.S.
June 12, 2002

A handwritten signature in black ink, appearing to read "Marvin M. Lateef". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Marvin M. Lateef
Supervisory Patent Examiner
Group 3700